

REPORT

ON THE

HEALTH OF SOUTH SHIELDS,

FOR THE YEAR 1877.

BY

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[PRESENTED TO THE SANITARY AUTHORITY ON THE
31st DAY OF JANUARY, 1878.]



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REPORT, 1877.

PART I.

SICKNESS AND MORTALITY.

During the fifty-two weeks of the year 1877 the returns of the District Registrars record 2300 births and 1220 deaths within the Borough. The excess of births over deaths is thus 1080.

Of the deaths 621 were of males and 599 of females.

POPULATION.—The Registrar General estimates the population for the whole South Shields Union to be, in the middle of the year under notice, 103,312, an estimate based upon the known rate of increase which prevailed in this district between the two last censuses ; and of this population 60·5 per cent. is supposed to be within the Borough of South Shields. The number, however, which this proportion would represent, viz., 62,496, is probably too high, and I have preferred, therefore, to frame the necessary calculations upon other sources of information—principally upon the known increase in the number of dwellings occupied, and to estimate the population for the purposes of this report at 60,000 ; an increase of 2,800 over the estimate of the previous year.

BIRTHS.—The birth-rate, per 1000 of this estimated population of 60,000, was 38·3 ; or 0·7 above the average rate of the 50 other large English towns, and 1·2 below the rate of 1876 of South Shields.

DEATHS.—Of the 1220 deaths, 28 occurred in public Institutions amongst persons brought from other districts of the Union with their fatal illnesses upon them. These, therefore, must be deducted from our calculations. The remaining 1192 represent a death-rate of 19·9 per 1000 persons estimated to be living, against 20·0 in the previous year, when the death-rate was then for South Shields the lowest on record.

In the annexed table, the death-rate per 1000 from all causes in the 50 large English towns and in South Shields during the last 37 years, is compared.

—	Mean of 20 years 1841-60	Mean of 10 years 1861-70	Mean of 3 years 1871-73	1874.	1875.	1876.	1877.
50 large towns.....	23·5	23·0	23·8	24·5	23·9	22·3	21·6
South Shields	25·0	24·0	27·5	27·4	22·7	20·0	19·9

SEASONS.—The relative mortality of the four quarters of the year and the mortality in corresponding quarters of the preceding year will be found in the subjoined table.

Annual death-rate per 1000, South Shields.

—	Year.	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.
1877	19·9	21·1	17·3	17·6	23·0
1876	20·0	24·0	19·1	20·2	16·1

In the first three quarters, the rates of mortality, it will be seen, compare favourably even with the low rates of the previous year. The excess in the fourth quarter, a subject which will be considered under the head of zymotic diseases, was wholly owing to the fatal prevalence during that period of scarlet fever.

The principal meteorological conditions of the several quarters will be seen in the following table; the most noticeable features being the moderate temperatures of the winter months, and the low temperatures, and in general excessive rainfall, of the summer.

Monthly Meteorological Table, 1877.

	Mean Reading of Barometer.	Mean Tempera- ture.	Rainfall in Inches.	Prevailing Winds.
January	29·65	39·8	2·26	S.W.
February	29·72	41·4	1·48	N.W.
March	29·65	38·9	1·71	N.W.
April	29·78	41·9	3·15	N.E.
May	29·84	44·7	1·98	N.E.
June	29·91	55·8	1·28	S.W.
July	29·90	56·1	2·80	N.W.
August	29·85	55·6	5·42	N.W.
September	29·96	50·1	1·78	N.W.
October	29·81	46·8	2·51	W.
November	29·56	43·6	1·46	W.
December	29·75	40·1	2·00	N.W.

LOCALITIES.—Information respecting the mortality of the various sanitary districts and sub-divisions will be found in the subjoined table, and, in fuller detail, in the Appendix [A & F]. The tables and remarks in which such information is embodied are, I venture to think, worthy of the special attention of the Authority ; representing as they now do, the accumulated data, as to the relative salubrity of the different quarters of their district, of three years. The information that may be thus derived is most interesting and suggestive. Certain districts, it will be found, consistently show throughout the period mentioned, low rates of mortality ; as for instance at the village of Westoe, where the death-rate from all causes, has ranged from 7·6 to only 10·0 per 1000 ; whilst in others, as in those comprising the Holborns and Costorphine Town, where the death-rate is nearly three times as high, an equally excessive mortality as constantly prevails. In the latter case it is instructive, too, to trace, as may be done, the excess to the influence of the most filthy and crowded quarters of these less favoured districts ; until in certain spots of the latter, the mortality may be found to exceed the rate, even for lengthened periods, of 40 per 1000 of the living.

SANITARY DISTRICTS: THEIR POPULATION, DENSITY OF POPULATION, ELEVATION OF SITE, BIRTH-RATE, AND MORTALITY RATES.

LOCALITY.		DEATH-RATE PER 1000.		MORTALITY.	
SANITARY DISTRICTS.	SUB-DIVISIONS.	Birth-rate.	From all Causes.	From Seven Zymotic Diseases.	From Phthisis.
	(For Boundaries of Districts, see Appendix.)	1876.	27. 1876.	Mean of 2 years 1875-76.	Mean of 2 years 1875-76.
I.	— BOROUGH	60,000	32	6 to 120 ft.	39·5
I.	{ 1 Between King St. and River... { 2 Between Ocean Rd. and River	8,953 5,480	68·3 86·6	6 to 60 ft. 6 to 63 ft.	40·8 37·4
II.	{ 1 From E. King St. and Ocean Rd. to Westoe { 2 Westoe Village	12,140 529	27·0 3·0	29 to 105 ft. 80 to 118 ft.	32·8 27·9
III.	{ 1 East Holborn and District..... { 2 Mill Dam Valley..... { 3 Green's Estate and District ...	4,640 2,745 8,720	100·9 59·7 190·0	20 to 44 ft. 9 to 35 ft. 30 to 40 ft.	38·2 32·1 45·9
IV.	{ 1 West Holborn, Corstorphine and Temple Towns..... { 2 Eldon St. and District	4,760 7,750	26·8 58·0	19 to 42 ft. 12 to 40 ft.	38·7 41·0
V.	{ 1 Tyne Docks, { 2 East Jarrow	3,390 873	23·3 3·2	12 to 56 ft. 12 to 20 ft.	47·7 36·0
		Range sea Level. Range above mean		No. of deaths under 1, to 1000 births registered.	
		Mean of 2 years 1875-76.		Mean of 2 years 1875-76.	
		1877.		1877.	
		Mean of 2 years 1875-76.		Mean of 2 years 1875-76.	
		1877.		1877.	
		1876.		1877.	
		150		146	
		174		170	
		161		146	
		83		66	
		114		124	
		200		4·5	
		192		3·8	
		137		4·0	
		120		4·1	
		171		4·9	
		160		4·2	
		151		3·5	
		118		4·7	
		120		3·6	

The zymotic mortality of Westoe village consisted of one death from whooping cough. The deceased child, with others of the family, had been sent to Harrogate for the benefit of their health ; but unfortunately apartments were taken in a house in which, as it afterwards appeared, whooping cough had prevailed. All the children of the family suffered, in consequence, by the change intended for their benefit.

In my report for 1876 I signalled out certain limited areas as illustrating in their mortality-rates certain points of interest. For instance, I showed the great difference in the mortality of certain streets in Sanitary District I, such streets being composed of much the same kind of property and inhabited by the same class of persons, but differing in the elevation of their site and the general ventilation of the locality ; *i.e.*, situated little above high water level, and with a comparatively stagnant atmosphere, on the one hand, and on the other, on high banks swept by the sea breezes. I propose to continue this investigation.

DISTRICT No. I. — SUB-DIVISION 1. (Parts of)*	Estimated Population.	Average Height above Ordnance Datum.	Death-rate per 1000 from all causes.		Death- rates per 1000 from principal Zymotic Diseases.		Mean of 3 years. Rate per 1000 of population per annum, 1875-77.		
			Mean of 2 years 1875-6.	1877.	Mean of 2 years 1875-6.	1877.	From Consumption.	From Inflammatory Diseases of Lungs.	†Scrofulous Diseases and Convulsions.
Long Row, Shadwell St., and Wapping St. } 1218 FT. Wellington St., Pal- tine St., Heugh St., Military Rd., Heron St., and Mitre St.... } 2278 10 36·1 28·8 5·4 8·2 2·4 6·0 7·4									
			22·4	21·5	4·2	4·4	1·3	5·1	4·6

* The main streets only are taken : courts and alleys are not included.

† *i.e.* Tubercular diseases, inanition, and convulsions, of children.

I likewise referred to the marked improvement that, to judge from the mortality returns, had taken place in the sanitary condition of Winchester street ; such improvement dating from the completion of certain works of drainage in that street, by which ground water, which before collected in large quantities, had been drawn from the foundations of the houses. In the annexed table these observations are continued.

—	Population.	Mean of 6 years, 1870-75.	1876.		1877.		
			Annual Death- rate.	Zymo- tic Rate.	Death- rate.	Zymo- tic Rate.	
Winchester Street	383	21·1	3·2	15·5	0·0	14·7	0·0

AGES.—The 1192 deaths from all causes, and at all ages, include 344 of infants under one year of age, or 29 per cent. of the total number of deaths ; 572, or 48 per cent., of children below the age of 5 years ; 398, or 34 per cent., of children and adults from 5 to 60 ; and 222, or 18·6 per cent., of elderly persons aged 60 and upwards.

Infant mortality, measured by the proportion of deaths under one to births registered, was equal to 150 per 1000, against 146 per 1000 in 1876, 166 in 1875, and 176 per 1000 in 1874. In all England the corresponding proportional number in 1877 was 136 ; in the healthy districts of the Registrar General it is 100.

The 344 deaths under one year, include 59 from the zymotic class of diseases, against 79 from the same cause in the preceding year ; 68 from atrophy and debility, against 72 in 1876 ; 52 from tubercular diseases, against the same number in the previous year ; 76 from inflammatory diseases of the lungs, against 53 ; 49 from convulsions, against 40. From syphilis 4 deaths were registered amongst infants, while, due most often no doubt to the agency of the same morbid poison, 23 were ascribed to premature birth. Six infants met their death by suffocation, a mishap (?) arising no doubt through the tender embrace of the mother in her sleeping hours. Murder, and burns, and scalds, each accounted for one infant's death ; while that of another was ascribed to "deficient respiration"—a comprehensive if somewhat ambiguous term.

ZYMOTIC DISEASES.—The annexed table gives the number of deaths from each of the seven principal zymotic diseases ; the distribution of such deaths over the four quarters of the year ; and the relative mortality of this and of the two previous years.

ZYMOTIC DISEASES.	Deaths during Year 1877.	Death-rate per 1000 per Annum.		Number of Deaths, 1877.			
		Mean of 2 years, 1875-76.	1877.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
Total deaths from 7 principal zymotic diseases	217	3·6	3·6	25	33	58	101
1. Small-pox	1	0·01	0·02	1	1	...	...
2. Measles.....	5	0·12	0·08	1	3	1	...
3. Scarlet Fever	70	0·36	1·20	4	1	2	63
4. Diphtheria	6	0·19	0·10	2	0	4	...
5. Whooping-cough	38	1·35	0·63	4	10	9	15
6. Fever { "Typhus"	2	0·11	0·04	1	...	...	1
Enteric (Typhoid).	26	0·32	0·43	5	6	6	9
Simple continued .	18	0·29	0·30	3	9	5	1
7. Diarrhoea	51	1·38	0·85	4	4	31	12

In the following table the mortality from the seven zymotic diseases in recent years in South Shields and in the fifty large English towns is compared.

	1872.	1873.	1874.	1875.	1876.	1877.
50 large English town	5·0	3·5	4·4	3·5	3·3	3·1
South Shields.....	7·2	5·2	5·5	4·2	3·0	3·6

Reference to these tables shows that whilst the zymotic mortality is still much below the average of that of previous years, the very favourable (I believe for South Shields the unprecedentedly favourable) rate of 1876 has scarcely been maintained ; and that this latter circumstance is owing mainly to the fatal prevalence of scarlet fever during the last quarter of the year.

During this quarter 63 deaths from scarlet fever occurred, and 287 cases of the disease came under the notice of the department. It assumed first epidemic proportions in the Eldon Street district (District IV. Sub-division 2); was sudden in its onslaught, and in its spread was at first clearly largely dependant upon the congregation of children in a large public day school. Thus, during the first 17 days of its prevalence, of 86 cases that came under my notice, representing 56 infected families, and 78 of such cases being in the district mentioned, or in its immediate vicinity, 54 were amongst the pupils or the immediate relatives of prior infected pupils of a single school ; 14 were amongst the pupils of other schools, while in the remaining 17 cases, such influence as that referred to could not apparently have been in operation. Subsequently, when the disease became more general, and centres of infection more numerous and diffused, the agency of schools in its dissemination became of necessity more difficult to demonstrate ; but still in many individual cases the conviction that the sufferer had contracted the disease at school, could, from the circumstances brought to light on investigation, scarcely be avoided. Other causes which facilitated its spread and increased its virulence were, too, as time progressed, clearly displayed. It fell with special and significant force on districts whose sanitary condition had been neglected. The new estates, especially, where houses had been rapidly run up, too often without any regard to sanitary requirements ; where the streets and back lanes are filthy and unpaved, the latter, in consequence, often littered with decomposing refuse ; where, in some quarters, whole streets had been occupied long before any means of drainage had been provided ; where middensteads of the most faulty and objectionable description, with their attendant soakage and leakage of foul liquids into the surrounding ground, thickly dot the surface, were, and are still, beyond all proportion, the greatest sufferers, as well in the extreme prevalence of the disease as in its fatality.

The deaths referred to fever, including typhus, enteric or typhoid, and undistinguished forms of fever, were likewise somewhat more numerous than in the preceding year. The fever death-rate which had fallen from 1·13 in 1874,

to 0·82 in 1875, and 0·51 in 1876, was equal to 0·76 per 1000. The two deaths referred to typhus, would probably be more correctly classified under the head of typhoid. The latter disease, although more fatal than in 1876, never during the year assumed any general prevalence, but on the contrary in every instance of its appearance, was localized within very narrow limits, usually within the limits of a single house or family; whilst in nearly every case, if not in every case without exception, its appearance was proved on investigation to be clearly due to some local removable cause; a remark, it may be said, which applies almost equally to the deaths, and many of the non-fatal cases that came under notice, of diphtheria.

The fatal case of small pox was one of four cases, which, on as many different occasions, were brought into the borough during the year by sea, from other ports. The circumstances of such introduction and the means taken to meet the danger are noticed in Part II. of the Report.

Of the 51 deaths from diarrhoea, 31 occurred during the 3rd or summer quarter, against 75 during the same period of the preceding year. The marked difference in the fatality of the two years, was no doubt owing to the colder weather that prevailed in the summer of 1877, (see table on page 11); for while there is abundant evidence to show that heat *alone* is powerless to produce that epidemic prevalence of this disease which, with every summer, in so many of our towns recurs, yet this element, probably through its power of facilitating putrefactive change in dead organic matter, exerts, experience shows, a direct effect upon the prevalence and fatality of the disease.

The annual death-rate per 1000 during the 3rd quarter of 1877 was equal to 2·1, against 5·0 the mean of the preceding 6 years in South Shields; 1·5 the average of the 50 large English towns during the period under report, and 0·8, the summer diarrhoea rate in the whole of England, exclusive of the large towns.

The following table shows the weekly record of deaths from diarrhoea in the third quarter, and the various concurrent meteorological conditions.

Diarrhoea in dates of death, South Shields.

DATE. 1877, Week ending	No. of Deaths.	Mean reading of Barometer.	Mean Temperature.	Rainfall in Inches.	Prevailing Winds.
July 7...	1	29·70	55·0	0·38	N.W.
" 14...	3	29·80	57·6	0·35	S.W.
" 21...	1	29·60	55·1	1·29	N.E.
" 28...	0	30·15	58·5	0·25	S.W.
August .. 4...	0	30·10	57·0	0·22	W.
" ... 11...	2	29·80	58·0	0·72	S.W.
" ... 18...	5	29·75	60·5	0·48	N.E.
" ... 25...	8	29·60	55·3	2·64	S.E.
September 1...	4	29·70	52·0	0·96	S.W.
" 8...	1	29·95	50·2	0·65	N.E.
" 15...	4	29·90	54·0	0·33	S.W.
" 22...	1	30·10	48·3	0·58	N.W.
" 29...	2	30·00	48·2	0·16	N.W.

In the annexed table the meteorology of the 3rd quarters of 1875, 1876, and 1877, in which years so great a diversity in the mortality from diarrhoea was experienced, is compared.

3rd Quarter.	Diarrhoea No. of Deaths.	Mean Reading of Baro- meter.	Mean Tempera- ture of Air.	Rain- fall.	WIND.				
					Estimated Strength of	Relative proportion of			
						N.	E.	S.	W.
1875	47	29·89	56·1	11·3	1·5	30	20	11	31
1876	75	29·79	55·9	6·37	1·3	25	16	16	35
1877	31	29·80	54·0	9·36	1·5	23	15	16	38

The difference in the mortality from this disease in the years 1876 1877, which I have referred to, was most conspicuous in the first month of the quarter, and as the same condition was found to obtain in the relative mortality of 1875 and 1876, the July meteorology of these three years, may be instructively compared.

	No. of Deaths from Diar- rhoea.	Mean Reading of Baro- meter.	Mean Tempera- ture of Air.	Rain- fall.	WIND.					
					Estimated Strength.	Relative proportion of				
						N.	E.	S.	W.	
July	1875	6	29·90	56·5	5·10	1·5	12	8	4	7
	1876	37	29·95	60·7	2·70	1·3	7	4	5	15
	1877	5	29·89	56·1	2·80	1·3	7	4	5	15

In the two earlier years there were other important differences, but in 1877 it appears the lower temperature of the month was the only condition of any significance.

Of the other zymotic diseases little need be said. In three of the seven deaths from pyæmia, the victims were puerperal women, who, it was afterwards found, had been confined in an atmosphere impregnated with sewer effluvia. Three of the 6 deaths referred to rheumatic fever occurred in houses then occupied for the first time ; a fact perhaps, which, remembering the condition in which new buildings are allowed to be inhabited—the unpaved and damp state of the surrounding ground, the damp and unseasoned condition of the walls—may be worth recording.

TUBERCULAR DISEASES.—From this class of diseases 221 deaths, phthisis or consumption accounting for nearly half that number, were registered. The death-rate was equal to 3·70 per 1000 of the estimated population, against 3·94, the average of the last 2 years ; or 2·90 the average rate in England.

INFLAMMATORY DISEASES OF THE RESPIRATORY ORGANS, including bronchitis, pneumonia, and pleurisy, accounted for 243 deaths. The annual death-rate per 1000 being 4·05, against 3·54 the average of the two preceding years. The percentage rate relative to the gross mortality was 20·4 ; the corresponding percentage rate in England being 15·1. (See pages 6 and 7).

HEART DISEASE.—51 deaths were so recorded. The equivalent annual rate per 1000 being equal to 0·89, or 0·2 per 1000 below the average rate of the last 2 years.

WASTING DISEASES OF CHILDREN.—The deaths from atrophy and debility, represent a rate of 1·3 per 1000. The corresponding average rate of the two preceding years was 1·5. In England the average is 1·2.

PART II.

ACTION TAKEN FOR PREVENTING THE SPREAD OF DISEASE.

SMALL-POX.—Four seamen suffering from small-pox were brought into the borough during the year, twice by sea from London, and twice by sea from foreign ports. The cases were immediately reported to me by the medical practitioners respectively in attendance, and were then at once removed to hospital. On one occasion the sufferer was found in a single room of a tenemented house in a crowded neighbourhood ; on another, as a lodger in a private dwelling ; on two others, in a doctor's consulting rooms. Extension of the disease took place only in the first-named instance, and then only to the sufferer's child. The latter and its mother were then removed also to the hospital, and the room occupied by them closed. Complete and prompt measures were in each of these cases adopted ; and it cannot be doubted that to such measures may be attributed the harmlessness with which each of the several importations of small-pox in this, as in the two preceding years, was characterized.

SCARLET FEVER.—An endemic disease of the locality, has, during the year, as already mentioned, assumed epidemic proportions. A few early cases* in a certain district of the town, and amongst the pupils of a certain day-school, occurred, and existed for some little time without my knowledge. During that interval the infection was widely disseminated, and general epidemic prevalence of the disease was the result. Amongst the measures taken to prevent the spread of the disease, the following may be enumerated :—A house to house inspection in the infected quarters was instituted, and notices to abate nuisances that were found, and to cleanse and limewash houses and premises, were freely issued ; every house in which fever was ascertained to exist, and in certain streets it was in almost every house, was promptly visited, and, when requisite, was as far as possible kept under surveillance until the termination of the sickness, at which time in very many cases the

* Perhaps the case to originate the mischief was one which occurred in High Maxwell Street. The child affected lived in a room adjoining and communicating with a provision shop, and attended the school referred to in the text. I did not hear of the case until a second child in this house was laid down ; and I then found the first still in a state of convalescence, moving about the shop and associating with her schoolfellows.

house was fumigated by the Inspector before being finally cleansed, and re-papered or limewashed, by the occupiers. Disinfectants in large quantities, their use however being always commenced under the personal direction and supervision of a sanitary officer, have been supplied at the public cost. Placards and handbills, warning the public against any breach of the sanitary laws relating to infectious diseases, and containing plain directions for preventing the spread of such disease, have been distributed by order of the Health Committee. Day schools and their out-offices have been disinfected, limewashed, and cleansed ; and the necessity of caution on the part of managers and teachers against admitting to such schools infected children, or children from infected houses, has been insisted upon. It has been necessary to issue 157 formal notices to disinfect premises ; two persons were summoned under the 128th Section of the Public Health Act, for knowingly letting for hire houses in which persons had been suffering from scarlet fever without having the same disinfected ; two persons were summoned under the 120th Section for failing to disinfect their houses after notice ; and two under the 126th Section (Sub-section 2) for wilfully exposing in public places children suffering from the disease. In each of the above cases a conviction was obtained, and a fine varying from 20s. to 40s. inflicted.

The experience of this little epidemic enforces some very obvious lessons, which, without burdening this report by enlarging upon them, I will briefly enumerate.

(1) The necessity of the registration of infectious diseases ; so that such cases as I have referred to, fraught with so much danger to the public, may not remain unknown to the authority entrusted with the duty of protecting the public health.*

(2) The necessity of extended legal powers, enabling the authority to check more decisively that recklessness which impels many people—often women with children in their arms—to frequent rooms in which persons are suffering from infectious disease.

* At present, the only provision (apart from that relating to returns of mortality) that has been made by the Legislature or the Local Government Board, to enable Medical Officers of Health to become acquainted with the prevalent diseases of their district is contained in a circular letter of the Board to Poor Law Guardians, directing the latter to cause to be furnished to the Health Officer the returns of the District Medical Officers relating to pauper sickness. A curious instance of the utter inefficiency and uselessness of this provision, even if the prompt and regular receipt of such returns could be relied upon, cropped up during the progress of the epidemic now under report. On the 24th of November, I received a notice from a Poor Law official to the following effect :—"I beg to call your attention to the first case of scarlet fever occurring in the _____ district of the South Shields Union." At that time I knew myself of some forty cases in that district, and no doubt there were at least double that number in existence there. Pauper infectious sickness, taken as a criterion of the prevalence of such sickness amongst the general population, I have found on several occasions to be a delusion. Infectious diseases attack principally the young and those in the prime of life ; whilst pauper medical practice is principally amongst the aged.

(3) The necessity of *permanent* and suitable hospital accommodation. [In the case under report, a fortnight after the first known outbreak there were nearly a hundred centres of infection in the town ; and the time for isolation by removal to a hospital had then gone by.]

(4) The necessity of some medical supervision of schools and school children ; and the advisability of modification of that regulation of the Education Department, under which the amount of the Government awards to schools is based upon the attendance of children, without any reference to their condition of health, or allowance for absence on account of sickness ; a regulation which, it is found, induces many managers and teachers to press, at any risk, for a child's attendance.

(5) The necessity, above all other necessities, of improved sanitary condition, under which, experience teaches, scarlet fever, like other zymotic diseases, is robbed of its virulence.

TYPHOID FEVER AND DIPHTHERIA.—Cases of these diseases, of which several have occurred, have always received my personal and prompt attention. They have appeared always during the year in localized and generally in apparently isolated outbreaks ; and under investigation their cause has usually, almost invariably, been clearly traceable to some defect of sewerage or drainage ; some soakage through house walls or into house foundations of the liquid contents of a middenstead, or other similar nuisance leading to a like excremental pollution of the atmosphere. I may mention one instance as an example of the very many that have from time to time been under investigation, and some of which have been related in detail to the Authority. In a house in Heugh Street, a mother (who subsequently died) and all her children, five in number, were laid down with typhoid fever. A drain with open joints, communicating with an ill-ventilated sewer, was found running beneath the floor ; and when, previous to its discovery, a pint of sulphuretted hydrogen water was thrown down a gulley in the outer yard, the distinctive odor of that gas, coming from beneath the boards, pervaded within a few seconds the whole house.*

* I find sulphuretted hydrogen (in the form of solution in water is the most handy) of the utmost value in such investigations. It always indicates a defect where a defect is present, and it never seems to play one false. I have never seen or heard its employment for such a purpose advocated, but its use occurred to me, and the sanitary officers here have now proved its value in a hundred investigations. Not the least of its advantages is the obvious or incontrovertible proof it affords to the uninitiated of the existence of a defect. When, in obscure defects of drainage, householder, owner, builder, and plumber, have all tired of what has seemed to be a fruitless as well as an expensive and troublesome search, the immediate escape into the house of sulphuretted hydrogen, on pouring the solution down an external or remote gully, or other opening into the drain, has silenced opposition, and at length led to the necessary discovery.

PART III.

SECTION 1.

SANITARY WORK

AND PROCEEDINGS OF THE MEDICAL OFFICER OF HEALTH
UNDER ARTICLES 1-10, SECTION IV., OF THE LOCAL GOVERN-
MENT BOARD'S ORDER OF NOVEMBER, 1872.

In my Report for 1876, I described in much detail the sanitary condition of each of the 5 districts and 11 sub-divisions into which the town, for the purposes of sanitary administration, has been divided. It would swell this report to undesirable length to re-produce that description here; although I would respectfully suggest that for the due appreciation of the work that is being carried out, the conditions injurious to health existing in the various sanitary districts, as there described, should be borne in mind. The systematic inspections—in many quarters the house to house inspections—that have been carried out in each district since that date, have brought to light many more of such conditions, while, on the other hand, by the action of the Authority very many, as the tabulated statements on the following pages will show, have been removed or mitigated. In September of the present year, a Sub-sanitary Committee was appointed to supervise the issue of statutory notices involving the carrying out of structural works. Such notices, the result of my own and the Inspector's inspections, are laid now before the Committee, who, often after visiting the property to which they refer, issue instructions thereon. The result is likely to be of the happiest description. More important permanent work has been effected during the three months of this arrangement than in

any equal time of a previous date. For where, formerly, a few important nuisances were removed, with many complaints to members of the Authority of the harshness of the Medical Officer's action, now the out-offices for instance, of whole streets have been ordered to be re-modelled or wholly changed. Such works as have to be instituted by the Authority also, as for instance the paving of lanes and courts, is, by personal inspection, more prominently enforced upon the attention of members.

The following is a statement of the nuisances, requiring the execution of structural works, or the permanent closure of dwellings, for their abatement, for which statutory notices were issued during the year: such nuisances being classified according to the sanitary districts in which they were found to exist.

NUISANCE.	TOTAL—BOROUGH.	DISTRICT I. North of King Street and Ocean Road.	DISTRICT II. South of Ocean Road.	DISTRICT III. Mill Dam Valley, Green's Estate, East Holborn.	DISTRICT IV. West Holborn, Corstorphine & Temple Towns.	DISTRICT V. Tyne Dock and East Jarrow.
Houses unfit for habitation ...	208	14	2	12	176	4
Dilapidated and ill-constructed houses and premises... } Privy-middens, so situated as to be a nuisance; and requiring for the abatement of the nuisance the removal of the midden, and the provision either of water-closets (generally the Liverpool trough) or dry privy receptacles	63	17	7	18	...	21
Want of closet accommodation (notices requiring the provision of trough water-closets) ...	148	55	26	53	2	12
Want of proper means of drainage of houses or land } Want of ventilation in dwellings ...	48	24	2	20	...	2
Defective slaughter-houses ...	20	3	3	3	11	...
Unpaved private yards or passages ...	21	5	6	8	...	2
Cellar dwellings.....	17	8	3	2	2	2
	23	10	4	7	...	2
	3	...	3	...	...	...

Besides these nuisances, abated by private individuals, many public courts and lanes have been paved and channelled, and other similar work carried out by the public authority.

The following is a list of nuisances, similarly classified, for which notices were also served, but for the abatement of which structural works were not required.

NUISANCE.	TOTAL— BOROUGH	DISTRICT I.	DISTRICT II.	DISTRICT III.	DISTRICT IV.	DISTRICT V.
Defective drains, privies, and water-closets	409	130	52	149	29	49
Houses, rooms, and passages so filthy as to be a nuisance	541	295	11	224	6	5
Nuisances arising through absence of water supply for domestic purposes.....	69	30	1	36	1	1
Overcrowding	12	3	1	6	2	...
Offensive accumulation of refuse (not in ashpits).....	78	38	5	36	3	4
Animals kept so as to be a nuisance	11	3	1	4	...	3
Water in ashpits	55	...	4	32	18	1
Overflowing middens	272	...	...	...	...	...
Verbal notices for cleansing rooms, removing refuse therefrom, &c.	1118	...	...	...	...	...

1500 hand-bills (not statutory notices) advising occupiers to whitewash and cleanse their premises, were issued in fever striken districts.

SECTION II.

ADVICE TO THE SANITARY AUTHORITY.

(UNDER THE LOCAL GOVERNMENT BOARDS' ORDER, SECTION IV.,
ARTICLES 4 & 5.)

Two special reports have been made to the Authority during the year—one on the system of refuse removal and disposal as adopted in various towns, including Liverpool, Birkenhead, Leeds, Manchester, Rochdale, Halifax, Salford, Edinburgh, Hull, and Glasgow, all of which towns were visited ; and one on hospital accommodation. The action taken by the Authority in the matter of the former, will be gathered from the first of the foregoing tables. The following are the bases on which the Health Committee have been induced to found their action in instituting the changes, in the privy accommodation of certain districts, there recorded, viz.:—That where privy-middens are so situated, *i.e.* in such close proximity to dwellings, or in such close and crowded neighbourhoods, as to be nuisances injurious to health, or where from the number of people using such conveniences, or from the defects of their construction, the same condition arises, they shall be required to be removed ; and that closet accommodation, in lieu thereof, shall be provided according to the following plan:—In properties consisting of more than four tenements, or for properties not accessible by the scavenger's cart,—the trough water-closet on the Liverpool pattern ; for properties of less than four tenements, a fixed dry privy receptacle, consisting of a mere space beneath the privy seat, not larger than ten cubic feet internal capacity, and emptied at least weekly,—a modification of the Hull and Glasgow privy.

Few, I think, will doubt the wisdom of this resolution ; at least the expediency of the requirement, that, to large tenemented properties, and to tenements so situated that the scavengers' carts cannot reach them (and of such properties a vast number exist in South Shields), trough water-closets shall be provided, is unassailable. Yet, I regret to say, an unexpected obstacle has arisen to its realization. The Water Company of South Shields, presuming upon the fact that in the Act regulating its charges, the supply of water to trough water-closets is not contemplated, and consequently the charge for such supply not provided for, has adopted, and maintains, in spite of all appeal, the most regrettable attitude of placing a practically prohibitory price on the supply of water. It insists, also, notwithstanding that trough closets are shown to be in themselves a measure of the water consumed, and to be extremely economical in its expenditure, upon the provision of a metre to each closet, for which a rent is charged equal to five times the value, as prescribed by law, of the water passing through it, and which, even at that rent, is of so small a capacity that attention to the closet becomes, through the time wasted in its

being charged, an unnecessarily expensive undertaking to the Corporation. The effect of this action is that, apart from the last-named consideration, for the 1000 gallons used in each closet per quarter, as indicated by the Company's own metres, and as shown in accounts of the Company, which I now have before me, a cost of 10s. (the legal charge per 5000 gallons being 5s. 7d.) is entailed upon the owner. Now, whatever may be the ulterior benefits to be derived from a purchase, no man likes to be charged systematically and continuously ten times the market value of any commodity; and it is scarcely to be wondered at that the Authority shrink from forcing improvements in the face of such an imposition. The Water Company, as I have said, in spite alike of appeals to their sense of justice, and to the claims of the district on the humane and benevolent administration of their affairs, refuse all concession; it remains to be seen how long the Local Authority, or the Central Government, will permit their wishes and intentions to be thwarted, the efforts of the former neutralized, and the sanitary improvement of a great disirict impeded, by an inimical monopoly.

HOSPITAL ACCOMMODATION.—Two acres of land, in a central and otherwise suitable situation, have been purchased, at a cost of £500 per acre, as a site for a fever hospital ; and a report on hospital accommodation, illustrated by sketch plans showing the mode of construction, having been presented to the Authority, the following resolution was arrived at:—"That the proposal in the Medical Officer's Report, as to the administrative accommodation of the hospital, be approved ; with two pavilions, giving accommodation for 16 beds, with an extra day room ; and that the Surveyor be instructed to prepare plans in accordance with this resolution, but that he also submit plans and an estimate for a hospital of 32 beds, as suggested by the Medical Officer." Subsequently, the Authority approved of the plan shewing accommodation for 32 patients, distributed in four pavilion wards ; with four extra (special or day) rooms ; the estimated cost of the building being £5400.

THE PAVING OF STREETS AND LANES.—In my last annual report, and in more recent ones, I spoke of the serious nuisances that resulted from the practice of allowing new districts to be occupied years even before the paving and channelling of the streets and back lanes were provided for. The Authority, finding from a special report that was requested of their Surveyor, that no less than 50 front and 43 back streets, equal to $6\frac{3}{4}$ miles of streets, were wholly unpaved, have passed a resolution, ordering that the work of paving streets be completed, in equal annual proportion, in the space of three years.

THE SANITARY REQUIREMENS OF NEW BUILDINGS.—The manner in which many of the sanitary bye-laws, relating to the drainage, ventilation, foundations, &c., of new buildings, were systematically ignored by builders, and the evils resulting from this neglect, was a subject that received prominent notice

in all the earlier sanitary reports. In this matter there is now, I believe, considerable improvement; and an officer has been appointed by the Corporation, whose special duty it is to see that the sanitary bye-laws and regulations referred to are duly observed.

THE VENTILATION OF SEWERS.—In certain districts the more free ventilation of the public sewers is much required, and it would be well if this work were more actively proceeded with. The Surveyor reports that during the year 45 ventilators have been applied, viz., 30 surface and 15 shaft-pipe ventilators, over the sewers of the district.

SECTION III.

DEPARTMENTAL WORK.

PROCEEDINGS UNDER ARTICLES 6-10, SECTION IV., OF THE LOCAL GOVERNMENT BOARD'S ORDER.

1.—The action taken on receiving information of the outbreak of epidemic disease (Article 6) has already been described (pages 13, 14).

2.—**NUISANCES AND OVERCROWDING**, (Article 7.)—The work done under this Article, and the action taken in respect of nuisances before the Justices, will be seen in pages 16, 17, and 18 of the Report and in the appendix D, tables 1 and 4.

3.—**FOOD SUPPLY**, (Article 8.)—A large amount of food has been reported unfit for human consumption, and much of it, on examination, it was found necessary to destroy. (See appendix D, tables 3 and 4.)

4.—**PROCEEDINGS UNDER BYE-LAWS OF THE SANITARY AUTHORITY** (Article 9,) AND **UNDER STATUTORY PROVISIONS AFFECTING TRADES.**—*Lodging Houses.*

—There are sixty-nine common lodging houses; eleven having been placed on the register during the year, and ten removed therefrom. These are kept on the whole in a satisfactory condition. Twenty-one cases of suspected infectious diseases in lodging houses were reported to the Health Office during the year. No proceedings before the Magistrates for breach of lodging house bye-laws have been taken. Twenty-three statutory notices, for nuisances connected with lodging houses, have been served.

Slaughter Houses.—The condition of the private slaughter houses of the Borough (now 123 in number,) is described in my report for 1876, and in a special report issued in April of the same year. The Health Committee have visited many of the slaughter houses reported upon, but have taken no action.

Bake Houses.—The twenty-eight public bake houses of the Borough have been kept under supervision, and the regulations affecting them have been carried out.

APPENDICES.

APPENDIX [A.1.]

*DEATHS FROM ALL CAUSES, AT CERTAIN AGES, AND
FROM VARIOUS DISEASES, CLASSIFIED ACCORDING
TO LOCALITIES.**

DISTRICT No. I.

*The District situated between the Market Place, King Street, and Ocean Road,
on the South-East, and the River on the North-West.*

SUB-DIVISION 1.—That part of the District West of Mile-end Road.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.									
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.	Inflammatory Lung Diseases	Scrof. Diseases & Convulsions
Albion Streets.....	135	2	...	1	...	...	...	...	...	...	...	...	1	...
Anderson's Lane	90	5	...	...	...	...	1	1	...	...	...	...	...	...
Beadnell's Bank	31	1	...	...	...	...	...	1	...	...	...	...	...	...
Broad Landing.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Cookson's Quay	36	3	...	1	...	...	...	...	1	...	...	...	2	...
Coxon's Court	10	...	...	...	...	...	...	...	...	...	...	...	...	...
Comical Corner	27	2	1	...	...	...	...	...	...	...	...	...	1	...
Deer's Lane	27	...	...	...	...	...	...	...	...	...	...	...	...	...
Dean Street	22	1	...	...	...	...	...	...	...	...	...	...	...	...
Dock Lane	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Dairy Lane	45	1	1	...	...	...	...	...	...	...	...	...	1	...
Dean Lane .....	...	1	1	...	...	...	...	...	1	...	...	...	...	...
Dog Leap Stairs .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fairles's Stairs.....	40	...	...	...	...	...	...	...	...	...	...	...	...	...
Ferry Court	50	1	...	...	...	...	...	...	...	...	...	...	1	...
Ferry Street	90	...	...	...	...	...	...	...	...	...	...	...	...	...
Foster Street	104	2	1	1	...	...	...	...	1	...	...	...	1	...
Heron Street	589	10	3	1	...	...	2	...	...	...	...	...	4	...
Heugh Street	371	12	3	3	...	...	1	...	...	...	1	4	2	...
Harding's Bank	112	2	1	...	...	...	...	...	...	...	...	...	1	...
Hancock's Square	49	...	...	...	...	...	...	...	...	...	...	...	...	...
Hancock's Lane	49	2	1	...	...	...	...	...	...	...	...	...	1	...
Half-moon Quay	18	1	...	...	...	...	...	...	...	...	1	...	...	...
King Street	90	7	3	...	...	...	...	...	2	...	1	...	...	...
Kirton's Quay	122	1	...	...	...	...	...	...	...	...	...	...	...	...
Long Row	148	5	1	1	...	...	...	1	...	...	2	1	...	...
Carried forward .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* See also table, page

† These include tubercular and wasting diseases of children, and convulsions.

DISTRICT No. I.—SUB-DIVISION 1.—(Continued.)

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.										
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.	Inflammatory Lung Diseases	Serof. Diseases & Convulsions
Brought forward .....	...	...											
Lady's Walk	27	...													
Long Bank	112	...													
Mill Street	264	6	2	1								1	2	1	2
Mile-end Road	343	6	1	3					1			3	1	1	3
Mitre Street	204	7	1	3					2			1	1	1	3
Market Place	163	2									1	1			1
Mason Lane	52	1	1												1
North Street	234	4	1	1										1	2
North Lane	90	2	1	1											1
Palatine Street	184	1		1										1	
Philip's Court	72	1													
Price Street	111	4	3					1		1			1		
Queen Street	297	3								1		2			
Soulsby's Court	30	3	1	1											2
Salem Street	94	1	1										1		
Spring Lane	90	1	1												1
Stob Lane	104														
Studley Stairs	63	3	2							1			2		
Shotton's Stairs	31														
Society Stairs	45	1	1												1
Saltwell Lane	9	5		1					1		1		2		
Tyne Street	139	1													
Thrift Street	216	4											1		
Trobe's Bank	27														
Thames Lane	81														
Thames Court	9	1													
Thames Street .....	...	16	6	3				2		1	1		2	4	
Union Alley	72	6	2							1	1	1	1	1	
Wellington Street	585	13	5	4				2		1	1	2	3	3	3
Walker's Buildings	68	3	1		1							1			
Wapping Street	565	20	6	1					2	3	1		2	5	3
Wellington Place	40	2	1										1		
Wilson's Dock .....	..	1													
Totals .....	...	177	53	27	.	1	.	6	11	8	9	6	18	34	32

APPENDIX [A.2.]

DISTRICT No. I. SUB-DIVISION 2.—East of Mile-end Road.

STREETS, COURTS, &c.	Population.	AGES		CERTAIN CAUSES.										
		Total Deaths.	Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhea.	Other Zymotics.	Phthisis.	Inflamm. Lung Disease.	Serof. Dis. & Convuls.
Alderson Street	265	7	2	2	...	...	...	...	...	...	...	1	4	1
Bath Street	210	4	1	1	...	...	...	...	...	...	...	...	...	2
Blumer's Terrace.....	193	5	4	...	...	...	...	...	...	1	...	1	...	3
Byron's Lane	27	...	...	...	...	...	...	...	...	...	...	...	...	...
Balcony Lane and Court.....	40	2	1	...	...	...	...	1	...	...	...	...	...	1
Baring Street	205	4	2	...	...	...	...	...	...	...	...	...	1	1
Cleveland Street	386	8	3	3	...	2	...	...	...	1	...	1	2	3
Coble Landing.....	45	1	1	...	...	...	...	...	...	...	...	...	1	...
Custom-house Quay.....	63	2	1	1	...	...	...	...	...	...	...	...	1	...
Davison's Lane	45	1	...	1	...	1	...	...	...	...	...	...	...	...
Edith Street.....	450	7	2	3	...	...	1	...	...	...	...	...	2	3
Green's Terrace	152	5	1	1	...	2	...	1	...	...	...	...	...	2
Green's Place	100	1	...	1	...	1	...	...	...	...	...	...	...	...
Grubb's Buildings	59	1	...	...	...	...	...	1	...	...	...	...	...	...
Hedley Street	340	5	1	2	...	...	2	...	...	...	...	...	2	...
Henry Street	73	...	...	...	...	...	...	...	...	...	...	...	...	...
Heugh Terrace	54	4	1	2	...	...	1	...	...	...	...	1	1	1
Heugh Court	14	...	...	...	...	...	...	...	...	...	...	...	...	...
Hospital Quay	76	2	...	1	...	...	...	...	...	...	...	...	...	1
Ingham Street	144	1	1	...	...	...	...	...	...	...	...	...	...	1
Lawe Cottages	116	...	...	...	...	...	...	...	...	...	...	...	...	...
Lawe Buildings	63	...	...	...	...	...	...	...	...	...	...	...	...	...
Lawson's Bank	57	1	...	...	...	...	...	...	...	...	...	...	...	...
Lawson's Lane.....	...	1	1	...	...	...	...	...	...	...	...	...	...	1
Livingstone Street	452	4	4	...	...	...	...	...	...	...	1	...	1	1
Morton Street	254	2	...	1	...	...	...	...	...	...	...	1	..	1
Military Road	337	7	4	1	...	...	2	...	...	...	...	1	1	2
Ocean Road	54	4	2	...	...	...	...	...	...	...	...	...	1	1
Ocean Terrace	32	...	...	...	...	...	...	...	...	...	...	...	...	...
Pilot Stairs	45	1	...	...	...	...	...	...	...	...	...	...	...	...
Pilot Street	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Pearson Street	31	...	...	...	...	...	...	...	...	...	...	...	...	...
Rose Lane	22	...	...	...	...	...	...	...	...	...	...	...	...	...
Rudd's Bank .....	...	1	...	...	...	...	...	...	...	...	...	1	...	...
Salmon Street	10	...	...	...	...	...	...	...	...	...	...	...	...	...
Salmon's Field .....	...	1	1	...	...	...	...	...	...	...	...	...	...	...
Stanhope Street	180	5	...	1	...	...	...	...	...	...	1	2	1	...
Stephen Street	45	1	...	...	...	...	...	...	...	...	...	...	...	...
Shadwell Street	516	11	3	1	...	...	1	...	1	1	...	1	1	1
Salmon's Quay.....	18	2	...	2	...	...	...	...	...	...	...	...	...	2
Workhouse .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals .....	...	101	36	24	.	4	2	7	*3	1	2	3	8	2028

* 1 registered as "Typhus."

APPENDIX [A.3.]

DISTRICT No. II.

District extending from South side of Ocean Road to Borough boundary beyond Westoe, bounded on the N.W. by the Stanhope and Tyne Railway, and on the East by the Ocean.

SUB-DIVISION 1.—That part of the District North of Westoe Village.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.										
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.	Inflamm. Lung Dis.	Serof. Dis. & Con.
Agnes Street	229	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Albion Terrace.....	216	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Albemarle Street	219	4	1	2	...	...	1	...	...	...	1	...	1	...	1
Albert Terrace.....	75	1	1	...	...	...	...	...	...	...	...	...	...	...	1
Alma Street	167	2	1	...	...	...	...	...	...	...	...	...	1	1	1
Anderson Street	40	3	1	...	...	...	...	...	...	...	...	...	1	...	1
Bell Street	255	4	..	2	...	...	...	...	...	...	...	...	...	...	...
Broderick Street	180	1	1	...	...	1	...	...	...	2	...	...	...	...	1
Burrow Street	260	7	2	3	...	...	...	...	...	...	...	...	2	...	...
Bent Cottages	108	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Charlotte Street	230	5	2	...	...	...	...	...	...	1	...	...	...	...	1
Challoner Terrace .....	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...
Challoner Grove	90	1	1	...	...	...	...	...	...	...	...	...	1	...	1
Chichester Road	116	3	..	1	...	2	...	...	...	...	1	...	...	...	...
Catherine Street	432	9	2	...	...	...	...	...	...	...	...	1	2	2	2
Charlotte Terrace	55	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dale Street	513	6	1	1	...	...	...	...	...	...	...	2	1	3	...
Derby Street (West).....	75	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Denmark Street	508	9	1	2	...	...	...	...	...	...	...	2	4	...	...
Derby Terrace	108	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Eleanor Street	220	5	1	...	...	...	1	...	...	...	...	...	1	...	...
Eastbourne Grove	70	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Eleanor Grove	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Elizabeth Street	100	1	1	...	...	...	...	...	...	...	...	...	...	...	1
Fowler Street	238	2	..	...	...	...	...	...	...	...	...	2	...	...	...
Franklin Street	333	12	3	5	...	...	2	...	...	2	...	4	4	4	4
Gardner Street	180	1	1	...	...	...	...	...	...	...	...	...	1	...	...
Garden Lane	180	5	1	2	...	...	...	...	...	...	...	...	...	...	4
Garden Street	81	2	..	...	...	...	...	...	...	...	...	1	1	1	...
George Potts Street.....	180	2	..	1	...	...	...	...	...	...	...	1	1	1	...
Grace Street.....	148	3	1	...	...	...	...	...	...	...	...	1	1	1	1
Ivy Street.....	266	4	1	1	...	...	...	...	...	...	...	1	1	1	1
Ingham Place	139	4	1	1	...	...	...	...	...	...	...	1	1	3	...
John Street	166	4	2	...	...	...	...	...	...	...	...	2	2	2	2
Kepple Street	180	1	..	...	...	...	...	...	...	...	...	...	...	...	...
Mariners' Cottages	171	2	..	...	...	...	1	...	...	...	1	...	...	...	...
Marine Approach	58	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meldon Terrace	152	1	1	...	...	...	...	...	...	...	...	1	...	1	...
Carried forward .....	...	107	27	22	...	3	4	1	...	3	3	13	26	26	26

DISTRICT No. II. SUB-DIVISION 1.—(Continued.)

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.							
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Phthisis.
Brought forward .....	...	107	27	22	...	...	...	...	...	...	...	...
Milton Street	120	2	1	...	...	...	...	...	...	...	...	1
Ogle Terrace	64	1	...	...	...	...	...	...	...	...	...	...
Pier Terrace	180	4	2	2	...	...	...	...	...	...	...	...
Percy Street.....	635	12	3	1	...	...	...	...	...	2	...	2
Ravensbourne Terrace	112	2	...	...	...	...	...	...	...	1	...	...
Romilly Street	30	...	...	...	...	...	...	...	...	...	...	...
Stevenson Street	154	1	...	...	...	...	...	1	...	...	...	...
Seafield Terrace	99	2	...	2	...	1	...	...	...	...	...	1
Somerset Street	206	6	4	1	...	...	...	...	...	...	...	3
Salisbury Place	10	...	...	...	...	...	...	...	...	...	...	2
Saville Street	185	10	1	1	...	...	...	...	...	...	...	2
Sunny Terrace	27	...	...	...	...	...	...	...	...	...	...	2
Shortridge Street.....	220	8	4	1	...	...	...	...	...	1	...	2
Sea View Terrace.....	60	...	...	...	...	...	...	...	...	...	...	...
Thomas Street	113	1	...	...	...	...	...	...	...	...	...	...
Victoria Terrace	138	3	1	...	...	...	...	1	...	...	...	1
Victoria Place	135	1	...	...	...	...	...	...	...	...	...	...
Winchester Street	382	4	...	...	...	...	...	...	...	...	...	...
William Street	130	3	1	...	...	...	...	...	...	...	...	1
Wellington Street	78	...	...	...	...	...	...	...	...	...	...	...
Woodbine Street	337	8	1	1	...	1	...	...	...	...	...	2
Wellington Terrace	2	2	...	...	...	1	...	...	...	...	...	1
Westoe Lane	52	...	...	...	...	...	...	...	...	...	...	...
Wouldhave Street .....	...	2	...	...	...	...	...	...	...	...	...	...
Wawn Street	142	2	...	1	...	...	...	...	...	...	...	1
Totals .....	...	179	45	31	.	5	1	4	3	.	6	5164240

APPENDIX [A.4.]

DISTRICT No. II. SUB-DIVISION 2.—Westoe Village.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.							
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Phthisis.
Westoe	403	2	...	...	...	...	...	...	...	...	...	...
Wood's Terrace	36	...	...	...	...	...	...	...	...	...	...	1
Westoe Crescent	38	2	1	...	...	...	1	...	...	1	...	...
Totals .....	...	4	1	.	.	.	1	...	1	1	1	1

APPENDIX [A.5.]
DISTRICT No. III.

The District situated between King Street on the N.E., Laygate Street and Laygate Lane on the S.W., the River on the N.W., and the Stanhope and Tyne Railway on the S.E.

SUB-DIVISION 1.—That part of the District to the West of the Passenger Line.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.										
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.	Inflammatory Lung Diseases	Serof. Diseases & Convulsions
Academy Hill	470	7	...	3	...	...	1	...	...	1	...	...	1	2	...
Addison Street.....	84	2	2	...	...	...	...	...	...	...	...	...	...	1	1
Bottle Bank and Court	90	9	4	3	...	3	...	1	...	1	...	...	1	2	2
Brewery Lane .....	...	5	4	1	...	...	...	...	...	...	...	...	1	1	3
Commercial Road	1115	18	5	1	...	1	...	...	...	...	...	2	4	4	4
Cowan's Place	77	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carpenter's Hill	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cone Street	184	6	1	3	...	1	...	...	...	...	1	...	1	1	1
Chapel Hill, Johnson's Hill...	...	2	...	1	...	...	...	...	...	...	1	...	1	1	1
Dockwray's Bank	67	4	1	1	...	...	1	...	...	...	...	...	...	1	1
East Holborn	414	14	...	1	...	...	...	2	...	...	3	2	1	1	1
Forrest's Hill	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hill Street	226	2	...	2	...	...	...	...	...	1	...	...	...	1	1
Henderson's Lane	30	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Harrison's Court.....	78	2	1	1	...	...	...	...	...	...	...	...	...	2	2
Johnson's Hill.....	170	4	4	...	...	1	...	...	...	...	...	...	1	2	2
Laygate Hill .....	...	2	...	...	...	...	...	...	...	...	...	...	1	...	...
Laygate Court .....	...	2	...	...	...	...	...	...	...	...	...	...	1	1	1
Laygate Street.....	365	6	1	2	...	...	...	...	...	1	...	1	2	1	1
Mill Dam.....	...	2	...	1	...	...	...	...	...	...	...	...	...	1	1
Nile Street	112	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Nelson's Bank	47	3	1	...	...	...	...	...	1	...	1	...	1	1	...
Pleasant Place.....	45	5	2	1	...	...	...	1	...	1	...	1	...	...	...
Pratt's Bank	72	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paine's Lane	45	3	2	...	...	...	...	...	...	1	...	1	...	1	1
Pleasant Cottage	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Roper's Court	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Swan Hill.....	124	3	1	...	...	...	...	...	...	...	...	1	...	1	1
Todd's Court	85	3	1	...	...	...	...	...	...	...	...	1	...	2	2
Tiney Street.....	50	2	...	1	...	...	...	...	...	...	...	...	...	2	2
Wawn's Court	68	4	...	1	...	...	...	...	...	...	...	...	3	1	1
Willow Cottages	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
West Dock	9	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Totals .....	...	113	30	23	...	6	1	3	2	2	5	1	13	21	29

APPENDIX [A.6.]

DISTRICT III.

SUB-DIVISION 2.—That part of the District East of the Passenger Line, and North-East of Claypath Lane.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.							
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Phthisis.
Barrington Lane.....	...	1	...	1	...	...	...	...	...	...	...	1
Barrington Street	216	2	...	...	...	...	...	...	...	1	1	...
Chapter Row	86	2	...	1	...	...	...	...	...	...	1	1
Church Row.....	9	1	...	...	...	...	...	...	...	...	1	...
Coronation Street	265	9	1	1	1	1	1	1	1	1	1	2
Cornwallis Street.....	157	2	...	1	...	...	...	...	...	...	...	2
Dove Court	27	...	...	...	...	...	...	...	...	...	...	...
East Street	54	2	1	...	...	...	...	...	...	...	1	1
Fairbairn's Court.....	58	...	...	...	...	...	...	...	...	...	...	...
Hilda Pit Yard	54	3	...	...	...	...	...	...	...	...	...	...
Hepple's Court	118	1	...	...	...	...	...	...	...	...	1	...
Kepple Street (West)	81	1	...	...	...	...	...	...	...	...	...	...
Kepple Court	118	...	...	...	...	...	...	...	...	...	...	...
Mount Terrace.....	90	2	1	...	...	1	...	...	...	...	...	1
Nelson Street	67	2	...	...	...	...	...	...	...	...	...	1
Oliver's Court	27	...	...	...	...	...	...	...	...	...	...	...
Oliver Street	76	3	...	1	...	...	...	...	1	...	...	...
Oyston Street	80	4	2	...	...	1	...	...	...	...	1	1
Oyston Court .....	...	3	2	...	...	...	...	...	...	...	...	1
Park Street	108	6	2	1	...	1	...	...	...	...	1	1
Russell Street	18	...	...	...	...	...	...	...	...	...	...	...
Readhead's Court	50	...	...	...	...	...	...	...	...	...	...	...
Railton's Court	90	1	1	...	...	...	...	...	...	...	...	1
Smithy Street	234	3	..	1	...	...	1	...	...	...	1	1
Waterloo Vale	294	5	...	1	...	...	...	...	1	...	1	3
Wallis Street	140	3	1	1	...	...	...	...	...	...	1	1
Waterloo Lane.....	99	1	1	...	...	...	...	...	...	...	...	1
West Street	14	...	...	...	...	...	...	...	...	...	...	...
Totals .....	...	57	12	9	.	4	.	1	1	.	3	111211

APPENDIX [A.7.]

DISTRICT No. III.

SUB-DIVISION 3.—That part of the District East of Passenger Line, and South-West of Claypath Lane.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.									
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.	Inflammatory Lung Diseases	Serof. Diseases & Convulsions
Adelaide Street	982	22	8	5	3	...	...	...	...	...	...	4	5	7
Bedford Street.....	193	2	1	...	...	...	...	...	1	...	...	...	...	...
Brunswick Street.....	718	23	7	3	2	...	1	...	2	1	...	8	3	...
Brunswick Gardens.....	13	...	...	...	...	...	...	...	...	...	...	...	...	...
Cambridge Street.....	580	18	6	4	1	...	...	...	1	...	2	2	4	4
Claypath Lane.....	126	4	1	1	...	...	...	...	...	...	...	1	2	...
Cuthbert Street	446	4	1	1	...	...	1	...	1	...	1	...	...	...
Cotton's Court .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Derby Street	315	11	3	4	...	...	1	...	...	...	...	5	2	...
Dixon Street.....	117	1	...	...	...	...	...	...	...	...	...	...	...	...
Edward Street.....	279	2	2	...	...	...	...	...	...	...	...	...	...	2
Green Street.....	300	6	3	...	...	...	...	...	...	1	...	1	1	...
George Street	238	4	4	...	...	...	...	...	...	...	...	...	...	4
Hardwick Street	148	4	2	...	...	...	...	...	...	...	...	1	1	...
Laygate Terrace	81	1	...	...	1	...	...	...	...	...	1	...	...	...
Lawson Street	27	1	...	...	...	...	...	...	...	...	...	...	...	...
Maxwell Street.....	1150	33	11	9	1	...	2	...	1	...	3	8	6	...
Martin Street	144	...	...	...	...	...	...	...	...	...	...	...	...	...
Orange Street	342	6	1	3	...	...	2	1	...	1	...	1	1	...
Orange Place	72	1	...	1	...	...	...	...	...	...	...	1	...	...
Princes Street	234	3	1	...	...	...	...	...	...	...	...	1	1	1
Peel Street	222	8	3	2	...	...	...	...	...	1	...	2	3	2
Pallister Street.....	90	3	1	1	...	...	...	...	...	1	...	...	...	2
Raglan Street	423	5	3	2	1	...	...	...	...	...	...	...	...	4
Smith Street.....	14	1	...	...	...	...	...	...	...	...	...	...	...	...
Victoria Road	316	7	1	2	1	...	...	...	...	...	...	3	...	...
Wilson Street	666	13	7	4	3	...	...	...	1	...	1	1	6	...
Totals .....	...	183	66	42	112	.	6	2	2	9	315	42	48	...

APPENDIX [A.8.]

DISTRICT No. IV.

District extending from Laygate Street and Laygate Lane South-West to the Dean Burn, bounded on the South-East by the Stanhope Line, and on the North-West by the River.

SUB-DIVISION 1.—That part of the District situated West of the Passenger Line.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.								
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phtisis.
Archer's Hill	112	2	1	...	...	...	...	...	...	...	...	...	1
Brickgarth Row	72	3	1	...	...	2	...	...	...	...	...	...	...
Back Row	126	...	...	...	...	...	...	...	...	...	...	...	...
Barrow Street	76	...	...	...	...	...	...	...	...	...	...	...	...
Colliery Square	198	14	6	3	1	2	...	...	...	2	...	2	1
Corstorphine Town.....	302	4	...	1	1	...	...	...	...	...	...	1	...
Cornwallis Square	210	9	2	3	...	1	...	1	...	2	1	...	1
Cornwallis Lane	54	...	...	...	...	...	...	...	...	...	...	...	...
Dinning's Buildings	76	...	...	...	...	...	...	...	...	...	...	...	...
Drake Street	126	2	1	...	...	...	...	...	...	...	...	...	1
Friend's Buildings	14	1	1	...	...	...	...	...	...	...	...	...	1
Fox's Quay	23	...	...	...	...	...	...	...	...	...	...	...	...
Hudson's Buildings.....	54	4	1	...	...	...	...	...	...	...	...	...	3 1
Haddock's Buildings	76	...	...	...	...	...	...	...	...	...	...	...	...
Henderson's Lane	54	...	...	...	...	...	...	...	...	...	...	...	...
Haddock Street	68	4	2	...	...	1	...	...	...	...	...	...	2
Junction Row	77	2	...	1	...	1	...	...	...	...	...	...	...
Jacob's Ladder	36	...	...	...	...	...	...	...	...	...	...	...	...
Laygate Square	36	...	...	...	...	...	...	...	...	...	...	...	...
Patrick Street .....	...	1	...	...	...	...	...	...	...	...	...	1	...
Portberry Street	111	3	1	...	...	...	...	...	...	...	...	...	2
Pan Bank.....	45	3	1	1	...	...	1	...	...	...	...	1	1
Potts' Quay	45	1	...	...	...	...	...	...	...	...	...	...	...
Potts' Court.....	...	1	...	...	...	...	1	...	...	...	...	...	...
River Street	126	2	...	1	...	...	...	...	...	...	...	...	1
Carried forward .....	...	56	17	10	2	7	...	8	...	4	1	2	12 6

DISTRICT No. IV.—SUB-DIVISION 1.—(Continued.)

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.									
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.	Inflammatory Lung Diseases	Serof. Diseases & Convulsions
Brought forward .....	...	56	17	10	2	7	...	3	...	4	1	2	12	6
Railway Terrace	14	2	...	...	...	...	...	...	...	...	...	1	...	...
Richard Street.....	50	2	...	...	...	...	...	...	...	...	1	...	...	...
Robson Street .....	...	1	...	1	...	1	...	...	...	...	...	...	...	...
Simon Street	54	...	...	...	...	...	...	...	...	...	...	...	...	...
Stackyard	36	3	1	2	1	1	...	...	...	...	...	...	...	2
Stableyard .....	...	1	...	1	1	1	...	...	...	...	...	...	...	...
Shepherd Street	45	...	...	...	...	...	...	...	...	...	...	...	...	...
Station Cottages	144	1	...	...	...	...	...	...	...	...	...	...	...	1
Sanderson's Court	54	1	...	...	...	...	...	...	...	...	...	...	1	...
Slake Row	153	5	3	1	1	1	...	...	...	2	...	...	1	1
Scullers' Landing	45	1	...	...	...	...	...	...	...	...	...	...	1	...
Smokey Row	45	...	...	...	...	...	...	...	...	...	...	...	...	...
Temple Town	22	1	1	...	...	...	...	...	...	...	...	...	...	1
Thornton Street	216	2	1	...	...	...	...	...	...	1	...	...	...	...
Turncoat Row.....	157	3	2	1	1	1	...	...	...	2	...	...	...	...
West Holborn	360	6	1	...	...	...	...	...	...	2	1	1	1	...
Weetman Street	22	...	...	...	...	...	...	...	...	...	...	...	...	...
Windmill Hill	204	7	1	...	...	1	...	...	...	...	...	...	1	1
Waggonway Side.....	72	1	...	...	...	...	...	...	...	1	...	...	...	...
West Pan Place	139	1	...	...	...	...	...	...	...	...	...	...	1	...
Well Lane	36	7	3	1	...	...	...	...	...	1	...	2	3	...
Wright's Court	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals .....	...	100	30	17	2	13	.	3	.	13	2	4	20	15

APPENDIX [A.9.]

DISTRICT No. IV.

SUB-DIVISION 2.—That part of the District situated to the East of the Passenger Line.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.										
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.	Inflammatory Lung Diseases	Serof. Diseases & Convulsions
Alexander Street	121	1	1	...	...	...	...	...	...	...	...	...	1	...
Alice Street	235	5	2	2	...	2	...	...	...	...	...	...	...	2
Barnes (The)	215	3	1	1	...	...	...	...	...	...	...	1	1	1
Broken Gardens	72	1	...	...	...	...	...	...	...	...	...	...	...	...
Berwick Street.....	81	2	1	1	...	1	...	...	...	...	...	...	...	1
Campbell Street	1084	26	10	5	...	5	...	...	...	...	1	1	5	4
Clarendon Terrace .....	...	2	...	...	...	...	...	...	...	...	1	...	...	...
Conway Terrace .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Deans (The).....	63	3	1	...	...	...	...	...	...	...	1	...	1	1
Dean Brewery	16	2	...	1	...	...	...	1	...	...	...	...	...	...
Dean Terrace	24	1	1	...	...	...	...	...	...	...	...	...	1	...
Eldon Street	1196	21	8	5	...	2	...	1	1	...	1	1	4	6	
Francis Street	266	5	3	...	...	...	...	1	1	...	...	...	...	2
Florence Street.....	112	2	1	1	...	1	...	...	...	1	...	...	...	...
Frederick Street	706	10	1	2	...	1	2	...	...	...	...	1	2	...
Garden Walks	81	2	...	1	...	...	...	...	...	...	...	...	...	1
Gladstone Terrace	162	2	2	...	...	...	...	...	...	...	...	...	1	1
Havelock Street	175	5	4	1	...	1	...	...	...	...	...	...	2	...
John Williamson Street	736	13	3	3	...	4	...	...	...	2	1	1	1	2
Joseph Terrace	54	2	1	...	...	...	...	...	...	...	...	...	...	1
Laygate Lane	234	2	...	...	...	...	...	...	...	...	...	...	1	...
Laygate Gardens	108	1	...	...	...	...	...	...	...	...	...	...	...	...
Palmerston Street	1123	26	6	8	1	1	...	2	...	...	...	4	5	6
Reken Dyke Lane	188	...	...	...	...	...	...	...	...	...	...	...	...	...
Reed Street	46	1	...	...	...	1	...	...	...	...	...	...	1	...
Trinity Court	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Walpole Street.....	216	7	2	3	...	2	...	...	...	...	1	2	1	...
Totals	145	48	35	1	21	2	4	*3	.	4	2	12	27	29

* 1 registered as "Typhus."

APPENDIX [A.10.]

DISTRICT No. V.

The district extending from the Dean Burn to the River Don; bounded on the South-West by the Stanhope and Tyne Railway, and on the North-East by the River Tyne.

SUB-DIVISION I.—Tyne Dock, East of Leam Lane.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.								
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhoea.	Other Zymotics.	Phthisis.
Bede Street	598	16	4	5	...	...	...	...	...	1	1	1	2
Dock Street	612	15	4	5	...	4	...	1	...	...	1	1	4
Dean Street	36	1	...	...	...	...	...	...	...	...	...	...	...
Frost Street.....	392	9	3	2	1	...	...	...	...	...	3	3	1
Fauld (The).....	...	1	...	...	...	...	...	...	...	...	1	...	...
Hudson Street	302	4	2	...	...	...	...	...	...	...	1	...	...
Leam Lane	85	5	...	...	...	...	1	...	...	2	...	1	1
Lord Nelson Street.....	376	5	2	1	...	...	...	...	...	...	2	2	1
Marshall's Buildings	40	2	...	1	...	...	...	...	...	...	...	...	1
Slake Terrace	211	3	1	1	...	...	...	...	...	...	2	1	1
Tyne Dock	22	5	...	1	...	...	...	...	...	...	...	...	1
Tyne Street	58	3	1	1	...	...	1	...	...	...	...	...	1
Union Street	29	4	2	1	...	...	...	...	...	...	...	1	2
Watson Terrace	40	...	...	...	...	...	...	...	...	...	...	...	...
Whitehead Street.....	13	1	...	...	...	...	...	...	...	1	...	...	...
Watson's Buildings.....	40	1	...	...	...	...	...	...	...	...	...	...	...
Totals .....	...	75	19	18	1	4	.	3	2	.	1	2	6
													15

APPENDIX [A.11.]

DISTRICT No. V. SUB-DIVISION 2.—East Jarrow, West of Leam Lane.

STREETS, COURTS, &c.	Population.	Total Deaths.	AGES		CERTAIN CAUSES.								
			Under 1.	1 and under 5.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Enteric Fever.	Other Fevers.	Diarrhea.	Other Zymotics.	Phthisis.
Bell Street	243	2	...	1	...	...	...	...	...	...	...	...	1
Cleveland Place	103	1	1	...	...	...	...	...	...	...	...	...	...
East Jarrow.....	9	6	2	2	...	...	...	...	2	...	...	2	1
Jarrow Lodge	40	2	1	...	...	...	...	...	...	...	...	...	1
Swinburne Street.....	100	...	...	...	...	...	...	...	...	...	...	...	...
Straker Street	238	...	...	...	...	...	...	...	...	...	...	...	...
Totals .....	...	11	4	3	.	.	.	.	2	.	1	2	3

APPENDIX [B.]

MORTALITY AMONGST MEN ENGAGED IN VARIOUS OCCUPATIONS, 1877.

OCCUPATIONS.	Total Mortality.	DISEASES.											
		Fever.	Other Zymotics.	Diseases of Brain and Spinal Cord.	Inflammatory Diseases of Lungs.	Consumption.	Heart.	Abdomen.	Cancer.	Paralysis.	Violence.	Old Age.	Other Causes.
Agent	2	...	1	...	...	...	...	1	...	...	...	...	...
Butcher	3	...	...	2	...	...	...	...	1	...	...	...	...
Brewer	1	...	...	...	...	...	...	...	...	...	1	...	...
Baker.....	1	...	...	1	2	2	2	1	...	...	...	...	1
Blacksmith	11	...	1	1	1	2	1	...	1	1	1	1	...
Cartman	5	1	...	...	1	2	...	...	...	1	...	...	...
Currier	3	...	1	...	1	...	1	1	...	...	...	...	...
Chemical Labourer ...	10	1	1	...	3	2	...	...	...	1	1	...	1
Clerk	9	1	...	1	3	3	...	1	...	...	...	...	...
Chemist	1	...	...	...	...	1	...	...	...	...	...	...	...
Draper	1	...	...	...	...	1	...	...	...	...	...	...	...
Engineer	10	1	...	1	1	2	...	...	...	...	4	...	1
Fireman.....	7	...	...	3	1	1	1	1	...	...	...	...	...
Hawker	4	1	...	...	...	1	...	...	1	...	...	...	1
Ironmonger	3	1	...	...	...	1	...	...	...	...	1	...	...
Joiner	12	...	1	1	3	5	2	...	...	...	...	...	1
Labourer	21	2	2	...	7	3	...	1	...	1	2	1	2
Mariner	65	6	1	4	12	6	11	6	...	1	12	...	6
Musician	1	...	...	...	...	1	...	...	...	...	...	...	...
Mason	10	1	...	...	3	4	...	1	...	...	1	...	...
Printer	1	...	...	1	...	...	...	...	...	...	...	...	...
Pitman	6	...	...	...	3	1	...	...	...	...	1	...	1
Publican	1	...	...	...	...	1	...	...	...	...	...	...	...
Painter	5	...	...	...	...	1	...	...	...	1	2	...	1
Platelayer	2	1	...	...	1	...	...	...	...	...	...	...	...
Pilot	2	...	...	...	2	...	...	...	...	...	...	...	...
Potter	1	...	...	...	...	1	...	...	...	...	...	...	...
Poster	2	1	...	...	...	...	...	...	...	...	1	...	...
Pawnbroker	2	...	...	...	...	...	1	...	...	...	...	...	1
Postman	1	...	...	...	...	1	...	...	...	...	...	...	...
Ropemaker	2	...	...	...	...	...	...	2	...	...	...	...	...
Shipwright	21	2	...	2	5	4	3	2	1	...	...	1	1
Shoemaker.....	10	...	...	...	3	1	2	1	1	...	...	...	2
Scavenger	1	...	...	...	...	...	1	...	...	...	...	...	...
Tailor	9	...	...	...	1	4	1	...	...	...	1	1	1
Trimmer	5	...	...	...	1	1	...	1	...	...	1	1	...
Timber Merchant.....	1	...	...	...	1	...	1	...	1	...	...	...	...
Watchmaker	3	...	...	...	1	...	1	...	...	...	1	...	...
	255	19	4	15	56	50	26	18	5	7	30	5	20

APPENDIX [E.]

TABLE OF DEATHS

During the year 1877, in the Urban Sanitary District of South Shields, classified according to Diseases, Ages, and Localities, and also showing the Population of such Localities, and the Births therein during the year.

* The deaths that occurred in Public Institutions have, as far as possible, for the purposes of this classification, been distributed to the Districts from which the deceased persons were removed. The deaths in the Workhouse, however, amongst persons belonging to other Districts of the South Shields Union, have been included. (See Note below.)

+ This information cannot be obtained.

[†] The figures of this column represent the number of deaths other than those that have been distributed to the several Districts as described above. They include, however, 25 deaths amongst persons brought from other Districts of the Union, viz., 2 from Typhoid, 2 from "Simple Continued Fever," 3 from Phthisis, 2 from Bronchitis, &c., 2 from Heart Disease, and 12 from other causes. In all 82 deaths occurred in the Workhouse.

§ Sixteen deaths occurred in the Fever Hospital; but these have been similarly distributed to the Districts from which the deceased persons were brought, in cases in which their residences were known. 3 deaths, however, viz., 2 from Typhoid and 1 from other forms of Fever, amongst persons brought from other Districts of the Union, have been included in this return, in order that it may correspond with the other tables.

APPENDIX [F].

BOROUGH OF SOUTH SHIELDS.

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE, DURING THE YEAR 1877,
AND DURING EACH OF THE FOUR QUARTERS.

CLASSES.	CAUSES OF DEATH.	AT ALL AGES.						AGES AT DEATH.																				
		Year 1877.			Under 1 Year.			1 to 2.		2 to 5.		5 to 15.		15 to 25.		25 to 40.		40 to 60.		60 to 80.		80 to —.						
		Males First Quarter.	Males Second Quarter.	Males Third Quarter.	Males Fourth Quarter.	Females First Quarter.	Females Second Quarter.	Females Third Quarter.	Females Fourth Quarter.	Males First Quarter.	Males Second Quarter.	Males Third Quarter.	Males Fourth Quarter.	Females First Quarter.	Females Second Quarter.	Females Third Quarter.	Females Fourth Quarter.	Males First Quarter.	Males Second Quarter.	Males Third Quarter.	Males Fourth Quarter.	Females First Quarter.	Females Second Quarter.	Females Third Quarter.	Females Fourth Quarter.			
I.	ALL CAUSES (Classes).	1220	341	259	272	348	621	599	184	164	70	58	42	58	576	46	38	25	25	67	56	77	75	99	107	10	19	
I.	Zymotic Diseases.	265	39	40	71	115	117	148	25	35	16	21	22	33	152	24	18	4	5	7	11	9	8	9	14	1	3	
II.	Constitutional do.	254	91	54	55	135	119	34	18	20	17	6	12	107	14	11	11	9	24	19	14	25	12	7	11	1	3	
III.	Local do.	503	156	129	100	118	261	242	77	56	30	18	13	12	206	4	9	5	8	22	19	42	40	62	73	5	8	7
IV.	Developmental do.	136	27	31	31	47	57	79	45	50	2	1	1	1	99	1	1	1	1	7	12	2	6	8	3	7	1	3
V.	Violent Deaths.	50	23	5	12	10	42	8	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Causes not Specified.	12	5	...	4	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
I.	1. Miasmatic Diseases.	1	1	...	1	1	...	1	4	3	22	1	4	1	4	15	13	41	18	9	...	...	1	...	...	...	...
	Small-pox.	5	1	3	1	2	63	38	5	1	5	14	24	4	1	2	3	1	1	1	1	1	1	1	1	1	1	
	Messies.	5	1	4	1	4	...	1	5	14	24	4	12	5	4	6	36	1	1	1	1	1	1	1	1	1	1	
	Scarlet fever.	70	4	1	2	63	38	5	1	5	14	24	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Diphtheria.	6	2	...	1	4	...	1	5	14	24	4	12	5	4	6	36	1	1	1	1	1	1	1	1	1	1	
	Whooping Cough.	38	4	10	9	15	14	24	4	12	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	{ Typhus.	2	1	...	1	1	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	Typhoid.	30	6	7	7	10	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	Simple continued.	21	4	9	7	1	8	13	16	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	Diarrhoea.	53	4	5	32	12	22	31	16	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
	Croup.	6	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Erysipelas.	6	1	...	1	2	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Puerperal Fever.	2	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Dysentery.	1	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Auge.	7	3	1	3	5	2	5	4	2	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Pyæmia.	6	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	Rheumatic fever.	2	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	2. Ethetic.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Syphilis.	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Hydrocephilia.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	3. Dietic.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
II.	1. Diabetic.	1	1	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	2. Tubercular.	2	...	2	2	10	7	8	2	21	16	10	9	8	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Scrofula.	2	1	...	2	2	11	12	17	61	45	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Tubes mesenterica.	48	21	4	23	22	17	35	30	17	7	9	5	7	5	7	54	2	7	2	3	23	17	11	14	4		
	Phthisis.	65	19	9	18	19	21	7	16	42	21	35	14	5	4	2	3	63	1	2	1	1	1	1	1	1	1	
	3. Diseases nervous system.	14	2	4	5	3	6	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Apoplexy.	34	7	7	10	10																						

